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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,012	02/26/2001	Jong Seob Kim	PI-120	6950

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SALIWANCHIK LLOYD & SALIWANCHIK
A PROFESSIONAL ASSOCIATION
2421 N.W. 41ST STREET
SUITE A-1
GAINESVILLE, FL 326066669

EXAMINER

MERCADO, JULIAN A

ART UNIT PAPER NUMBER

1745

DATE MAILED: 12/19/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/786,012

Applicant(s)

KIM ET AL.

Examiner

Julian Mercado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: ____

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kita et al. (JP 10-112335).

The examiner relies on the JPO Abstract and the machine-translation of the abovesited document pending a further literal translation. Kita teaches a lithium salt such as LiPF_6 , *inter alia*, at 0.3 to 1.7 M which is within the instant M range when dissolved in an organic solvent comprising a fluorobenzene component such as either a mono or difluorobenzene, *inter alia*, i.e. formula (1) and either a straight-chain carbonate, i.e. formula (2) such as dimethyl carbonate, *inter alia*, and/or cyclic carbonate, i.e. formula (3) such as ethylene carbonate, *inter alia*. (par. 0021, par. 0015, par. 0019) Mixtures of mono- and difluorobenzene are disclosed. (pars. 0040-0045)

Claims 1, 3 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamamoto et al. (JP 10-112335).

The examiner relies on the PAJ Abstract and the machine-translation of the abovesited document pending a further literal translation. Hamamoto teaches a lithium salt such as LiPF_6 ,

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inter alia, at 0.5 to 1.5 M which is within the instant M range when dissolved in an organic solvent comprising a fluorobenzene component such as pentafluorobenzene, i.e. formula (1) and either a straight-chain carbonate, i.e. formula (2) such as dimethyl carbonate, *inter alia*, and/or cyclic carbonate, i.e. formula (3) such as ethylene carbonate, *inter alia*. (par. 0017, par. 0015, par. 0016)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either Kita et al. as applied to claims 1-4 above, or Hamamoto et al. applied to claims 1, 3 and 4 above, in view of the Merck Chemical Database.

(<http://www.chemdat.de/cdrl/catalog/standard/en/index.html>)

As to claims 5 and 6 and a volume percent of formula (1) relative to either formula (2) or (3), respectively, based on the respective densities obtained from the Merck Chemical Database website, Kita teaches a preferred wt. % of the fluorobenzene to range from 0.1 to 10 wt.%. (Abstract) The latter amount corresponds to 9.7 vol.% fluorobenzene relative to 84% or 59.7%

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of dimethyl carbonate or ethylene carbonate, respectively. The resulting ratios are 11.5 % and 16.2% which are comfortably within Applicant's claimed range of 2/1 (33%) to 1/10 (9%).

Similarly, in Hamamoto, based on the respective densities obtained from the Merck Chemical Database website, a disclosed 0.01 to 20 wt. % of the pentafluorobenzene corresponds to a volume percent of 0.06 to 13.2 vol. %. The balance being either, e.g., dimethyl carbonate or ethylene carbonate at 99.9 to 80 wt. %, the corresponding volume percentages range from 93.4 to 74.8 vol. % and 74.6 to 60.0 vol. %, respectively. The resulting ratios of the latter vol. % are 17.6 % and 22% which are comfortably within Applicant's claimed range of 2/1 (33%) to 1/10 (9%).

In view of the foregoing, a disclosed wt. % of the fluorobenzene component in either Kita or Hamamoto would naturally flow to inherently have the same volume ratio as claimed, absent of a showing by Applicant that the claimed invention distinguishes over each of the references. *In re Best* and *In re Spada*, 15 USPQ 2d 1655 (Fed. Cir. 1990) Further, calculation of such volume ratios based on the wt. % are deemed obvious to the skilled artisan as demonstrated by this Office Action.

Conclusion

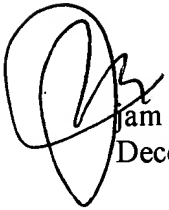
In the IDS filed July 16, 2001, Applicant notes that the cited documents were not enclosed as they were already in the national state file. The examiner notes that no such documents are present, however, the cited documents were obtained by the examiner through prior art search means. These documents have been considered. The Japanese documents were considered via their corresponding JPO Abstracts.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (703) 305-0511. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



jam
December 16, 2002



Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700